The Attack from Space

A sequel to “Beyond the Heaviside Layer”

By Captain S. P. Meek

"No one knows what unrevealed horrors space holds and the world will never rest entirely easy until the slow process of time again heals the protective layer."—From "Beyond the Heaviside Layer."

Over a year has passed since I wrote those lines. When they were written the hole which Jim Carpenter had burned with his battery of infra-red lamps through the heaviside layer, that hollow sphere of invisible semi-plastic organic matter which encloses the world as a nutshell does a kernel, was gradually filling in as he had predicted it would: every one thought that in another ten years the world would be safely enclosed again in its protective layer as it had been since the dawn of time. There were some adventurous spirits who deplored this fact, as it would effectually bar interplanetary travel, for Hadley had proved with his life that no space flyer could force its way through the fifty miles of almost solid material which barred the road to space, but they were in the minority. Most of humanity felt that it would rather be protected against the denizens of space than to have a road open for them to travel to the moon if they felt inclined.

From a far world came monstrous invaders who were all the more terrifying because invisible.

To be sure, during the five years that the hole had been open, nothing more dangerous to the peace and well-being of the world had appeared from space than a few hundreds of the purple amoeba which we had found so numerous on the outer side of the layer, when we had traveled in a Hadley space ship up through the hole into the outer realms of space, and one lone specimen of the green dragons which we had also encountered. The amoeba had been readily destroyed by the disintegrating rays of the guarding space-ships which were stationed inside the layer at the edge of the hole and the lone dragon had fallen a ready victim to the machine-gun bullets which had been poured into it. At first the press had damned Jim Carpenter for opening the road for these horrors, but once their harmlessness had been clearly established, the row had died down and the appearance of an amoeba did not merit over a squib on the inside pages of the daily papers.

While the hole in the heaviside layer was no longer news for the daily press, a bitter controversy still waged in the scientific journals as to the reason why no observer on earth, even when using the most powerful telescopes, could see the amoeba before they entered the

hole, and then only when their telescopes were set up directly under the hole. When a telescope of even small power was mounted in the grounds back of Carpenter's laboratory, the amoeba could be detected as soon as they entered the hole, or when they passed above it through space; but, aside from that point of vantage, they were entirely invisible.

Carpenter's theory of the absorptive powers of the material of which the heaviside layer was composed was laughed to scorn by most scientists, who pointed out the fact that the sun, moon and stars could be readily seen through it. Carpenter replied that the rays of colored or visible light could only pass through the layer when superimposed upon a carrier wave of ultra-violet or invisible light. He stated dogmatically that the amoeba and the other denizens of space absorbed all the ultra-violet light which fell on them and reflected only the visible rays which could not pass through the heaviside layer because of the lack of a synchronized carrier wave of shorter wave-length.

Despetier replied at great length and showed by apparently unimpeachable mathematics that Carpenter was entirely wrong and that his statements showed an absolute lack of knowledge of the most elementary and fundamental laws of light transmission. Carpenter replied briefly that he could prove by mathematics that

two was equal to one and he challenged Despetier or anyone else to satisfactorily explain the observed facts in any other way. While they vainly tried to do so, Carpenter lapsed into silence in his Los Angeles laboratory and delved ever deeper into the problems of science. Such was the situation when the attack came from space.

My first knowledge of the attack came when McQuarrie, the city editor of the San Francisco *Clarion*, sent for me. When I entered his office he tossed a Los Angeles dispatch on the desk before me and with a growl ordered me to read it. It told of the unexplained disappearance of an eleven year old boy the night before. It looked like a common kidnapping.

"Well?" I asked as I handed him back the dispatch.

With another growl he tossed down a second telegram. I read it with astonishment, for it told of a second disappearance which had happened about an hour after the first. The similarity of the two cases was at once apparent.

"Coincidence or connection?" I asked as I returned it.

"Find out!" he replied. "If I knew which it was I wouldn't be wasting the paper's money by sending you to Los Angeles. I don't doubt that

I am wasting it anyway, but as long as I am forced to keep you on as a reporter, I might as well try to make you earn the money the owner wastes on paying you a salary, even although I know it to be a hopeless task. Go on down there and see what you can find out, if anything."

I jotted down in my notebook the names and addresses of the missing children and turned to leave. A boy entered and handed McQuarrie a yellow slip. He glanced at it and called me back.

"Wait a minute, Bond," he said as he handed me the dispatch. "I doubt but you'd better fly down to Los Angeles. Another case has just been reported."

I hastily copied down the dispatch he handed me, which was almost a duplicate of the first two with the exception of the time and the name. Three unexplained disappearances in one day was enough to warrant speed; I drew some expense money and was on my way south in a chartered plane within an hour.

On my arrival I went to the Associated Press office and found a message waiting for me, directing me to call McQuarrie on the telephone at once.

"Hello, Bond," came his voice over the wire, "have you just arrived? Well, forget all about that disappearance case. Prince is on his way to Los Angeles to cover it. You hadn't been gone an hour before a wire came in from Jim Carpenter. He says, 'Send Bond to me at once by fastest conveyance. Chance for a scoop on the biggest story of the century.' I don't know what it's about, but Jim Carpenter is always front page news. Get in touch with him at once and stay with him until you have the story. Don't risk trying to telegraph it when you get it—telephone. Get moving!"

I lost no time in getting Carpenter on the wire.

"Hello, First Mortgage," he greeted me. "You made good time getting down here. Where are you?"

"At the A. P. Office."

"Grab a taxi and come out to the laboratory. Bring your grip with you: you may have to stay over night."

"I'll be right out, Jim. What's the story?"

His voice suddenly grew grave.

"It's the biggest thing you ever handled," he replied. "The fate of the

whole world may hang on it. I don't want to talk over the phone; come on out and I'll give you the whole thing."

An hour later I shook hands with Tim, the guard at the gate of the Carpenter laboratory, and passed through the grounds to enter Jim's private office. He greeted me warmly and for a few minutes we chatted of old times when I worked with him as an assistant in his atomic disintegration laboratory and of the stirring events we had passed through together when we had ventured outside the heaviside layer in his space ship.

"Those were stirring times," he said, "but I have an idea, First Mortgage, that they were merely a Sunday school picnic compared to what we are about to tackle."

"I guessed that you had something pretty big up your sleeve from your message." I replied. "What's up now? Are we going to make a trip to the moon and interview the inhabitants?"

"We may interview them without going that far," he said. "Have you seen a morning paper?"

"No."

"Look at this."

He handed me a copy of the *Gazette*. Streamer headlines told of the three disappearances which I had come to Los Angeles to cover, but they had grown to five during the time I had been flying down. I looked at Jim in surprise.

"We got word of that in San Francisco," I told him, "and I came down here to cover the story. When I got here, McQuarrie telephoned me your message and told me to come and see you instead. Has your message anything to do with this?"

"It has everything to do with it, First Mortgage; in fact, it *is* it. Have you any preconceived ideas on the disappearance epidemic?"

"None at all."

"All the better—you'll be able to approach the matter with an unbiased viewpoint. Don't read that hooey put out by an inspired reporter who blames the laxness of the city government; I'll give you the facts without embellishment. Nothing beyond the bare fact of the disappearance is known about the first case. Robert Prosser, aged eleven, was sent to the grocery store by his mother about six-thirty last night and failed to return. That's all we know about it, except

that it happened in Eagle Rock. The second case we have a little more data on. William Hill, aged twelve, was playing in Glendale last night with some companions. They were playing 'hide and go seek' and William hid. He could not be found by the boy who was searching and has not been found since. His companions became frightened and reported it about eight o'clock. They saw nothing, but mark this! Four of them agree that they heard a sound in the air *like a motor humming*."

"That proves nothing."

"Taken alone it does not, but in view of the third case, it is quite significant. The third case happened about nine-thirty last night. This time the victim was a girl, aged ten. She was returning home from a moving picture with some companions and she disappeared. This time the other children saw her go. They say she was suddenly taken straight up into the air and then disappeared from sight. They, also claim to have heard a sound like a big electric fan in the air at the time, although they could see nothing."

"Had they heard the details of the second disappearance?"

"They had not. I can see what you are thinking; that they were unconsciously influenced by the account given of the other case."

"Consciously or unconsciously."

"I doubt it, for the fourth case was almost a duplicate of the third. The fourth and fifth cases happened this morning. In the fourth case the child, for it was a nine year old girl this time, was lifted into the air in broad daylight and disappeared. This disappearance was witnessed, not only by children, but also by two adults, and their testimony agrees completely with that of the children. The fifth case is similar to the first: a ten year old boy disappeared without trace. The whole city is in a reign of terror."

The telephone at Carpenter's elbow rang and he answered it. A short conversation took place and he turned to me with a grim face as he hung up the receiver.

"Another case has just been reported to police headquarters from Beverly Hills," he said. "Again the child was seen to be lifted into the air by some invisible means and disappeared. The sound of a motor was plainly heard by five witnesses, who all agree that it was just, above their heads, but that nothing could be seen."

"Was it in broad daylight?"

"Less than an hour ago."

"But, Jim, that's impossible!"

"Why is it impossible?"

"It would imply the invisibility of a tangible substance; of a solid."

"What of it?"

"Why, there isn't any such substance. Nothing of the sort exists."

Carpenter pointed to one of the windows of his laboratory.

"Does that window frame contain glass or not?" he asked.

I strained my eyes. Certainly nothing was visible.

"Yes," I said at a venture.

He rose and thrust his hand through the space where the glass should have been.

"Has this frame glass in it?" he asked, pointing to another.

"No."

He struck the glass with his knuckle.

"I'll give up," I replied. "I am used to thinking of glass as being transparent but not invisible; yet I can see that under certain light conditions it may be invisible. Granted that such is the case, do you believe that living organisms can be invisible?"

"Under the right conditions, yes. Has any observer been able to see any of the purple amoeba which we know are so numerous on the outer side of the heaviside layer?"

"Not until they have entered the hole through the layer."

"And yet those amoeba are both solid and opaque, as you know. Why is it not possible that men, or intelligences of some sort, are in the air about us and yet are invisible to our eyes!"

"If they are, why haven't we received evidence of it years ago?"

"Because there has only been a hole through the heaviside layer for six years. Before that time they could not penetrate it any more than poor Hadley could with his space ship. They have not entered the hole earlier because it is a very small one, at present only some two

hundred and fifty yards in diameter in a sphere of over eight thousand miles diameter. The invaders have just found the entrance."

"The invaders? Do you think that the world has been invaded?"

"I do. How else can you explain the very fact which you have just quoted, that no evidence of the presence on these invisible entities has previously been recorded?"

"Where did they come from?"

"They may have come from any where in the solar system, or even from outside it but I fancy, that they are from Mars or Venus."

"Why so?"

"Because they are the two planets nearest to the earth and are the ones where conditions are the most like they are on the earth. Venus, for example, has an atmosphere and a gravity about .83 of earthly gravity, and life of a sort similar to that of the earth might well live there. Further, it seems more probable that the invaders have come from one of the nearby planets than from the realms of space beyond the solar system."

"What about the moon?"

"We can dismiss that because of the lack of an atmosphere."

"It sounds logical, Jim, but the idea of living organisms of sufficient size to lift a child into the air who are invisible seems a little absurd."

"I never said they were invisible. I don't think they are."

"But they must be, else why weren't they seen?"

"Use your head, First Mortgage. Those purple amoeba we encountered were quite visible to us, yet they are invisible to observers on the earth."

"Yes, but that is because the heaviside layer is between them and the earth. As soon as they come below it they can be seen."

"

Exactly. Why is it not possible that the Venetians, or Martians, or whoever our invaders are, have encased themselves and their space flyer in a layer of some substance similar to the heaviside layer, a substance which is permeable to light rays only when a large

proportion of ultra-violet rays accompany the visible rays? If they did this and then constructed the walls of their ship of some substance which absorbed all the ultra-violet rays which fell on it; not only would the ship itself be invisible, but also everything contained in it—and yet they could see the outside world easily. That such *is* the case is proved by the disappearance of those children in mid-air. They were taken into a space ship behind an ultra-violet absorbing wall and so became invisible."

"If the walls absorbed all the ultra-violet and were impermeable to light without ultra-violet, the ship would appear as a black opaque substance and could be seen."

"That would be true except for one thing which you are forgetting. The heaviside layer, as I have repeatedly proved, is a splendid conductor of ultra-violet. The rays falling on it are probably bent along the line of the covering layer so that they open up and bend around the ship in the same manner as flowing water will open up and flow around a stone and then come together again. The light must flow around the solid ship and then join again in such a manner that the eye can detect no interruption."

"Jim, all that sounds reasonable, but have you any proof of it?"

"No, First Mortgage, I haven't—yet; but if the Lord is good to us we'll have definite proof this afternoon and be in a position to successfully combat this new menace to the world."

"Do you expect me to go on another one of your crack-brained expeditions into the unknown with you?"

"

Certainly I do, but this time we won't go out of the known. I have our old space flyer which we took beyond the heaviside layer six years ago ready for action and we're going to look for the invaders this afternoon."

"How will we see them if they are invisible?"

"They are invisible to ordinary light but not to ultra-violet light. While most of the ultra-violet is deflected and flows around the ship or else is absorbed, I have an idea that, if we bathe it in a sufficient concentration of ultra-violet, some would be reflected. We are going to look for the reflected portion."

"Ultra-violet light is invisible."

"It is to the eye, but it can be detected. You know that radium is activated and glows under ultra-violet?"

"Yes."

"Mounted on our flyer are six ultra-violet searchlights. By the side of each one is a wide angle telescopic concentrator which will focus any reflected ultra-violet onto a radium coated screen and thus make it visible to us. In effect the apparatus is a camera obscura with all lens made of rock crystal or fused quartz, both of which allow free passage to ultra-violet."

"What will we do if we find them?"

"Mounted beneath the telescope is a one-pounder gun with radite shells. If we locate them, we will use our best efforts to shoot them down."

"Suppose they are armed too?"

"

In that case I hope that you shoot faster and straighter than they do.

If you don't—well, old man, it'll just be too damned bad."

"I don't know that the *Clarion* hires me to go out and shoot at invisible invaders from another planet, but if I don't go with you, I expect you'd just about call up the *Echo* or the *Gazette* and ask them for a gunner."

"Just about."

"In that case, I may as well be sacrificed as anyone else. When do we start?"

"You old faker!" cried Jim, pounding me on the back. "You wouldn't miss the trip for anything. If you're ready we'll start right now. Everything is ready."

"Including the sacrifice," I replied, rising. "All right, Jim, let's go and get it over with. If we live, I'll have to get back in time to telephone the story to McQuarrie for the first edition."

I followed Jim out of the laboratory and to a large open space behind the main building where the infra-red generators with which he had pierced the hole through the heaviside layer had been located. The reflectors were still in place, but the bank of generators had been

removed. A gang of men were hard at work erecting a huge parabolic reflector in the center of the circle, about the periphery of which the infra-red reflectors were placed. In an open space near the center stood a Hadley space ship, toward which Jim led the way.

I wondered at the activity and meant to ask what it portended, but in the excitement of boarding the flyer forgot it. I followed Jim in; he closed the door and started the air conditioner.

"Here, First Mortgage," he said as he turned from the control board and faced me, "here are the fluoroscopic screens. They are arranged in a bank, so that you can keep an eye on all of them readily. Beneath each telescope is an automatic one-pounder gun with its mount geared to the telescope and the light, so that the gun bears continually on the point in space represented by the center of the fluoroscopic screen which belongs to that light. If we locate anything, turn your beam until the object is in the exact center of the screen where these two cross-hairs are. When you have it lined up, push this button and the gun will fire."

"What about reloading?"

"The guns are self-loading. Each one has twenty shells in its

magazine and will fire one shot each time the button is pushed until it is empty. If you empty one magazine, I can turn the ship so that another gun will bear. This gives you a total of one hundred and twenty shots quickly available; there are sixty extra rounds, which we can break out and load into the magazines in a few seconds. Do you understand everything?"

"I guess so. Everything seems clear enough."

"All right; sit down and we'll start."

I took my seat, and Jim pulled the starting lever. I was glued to the seat and the heavy springs in the cushion were compressed almost to their limit by the sudden acceleration. As soon as we were well clear of the ground Jim reduced his power, and in a few moments we were floating motionless in the air, a thousand feet up. He left the control board and came to my side.

"Start your ultra lights," he said as he joined me. "We may be able to spot something from here."

I started the lights and we stared at the screens before us. Nothing appeared on any of them except the one pointing directly down, and

only an image of the ground, appeared on it. Under Jim's tutelage I swung the beams in wide circles, covering the space around us, but nothing appeared.

"Those beams won't project over five miles in this atmosphere," he said, "and the ship we are looking for may be so small that we would have trouble locating it at any great distance. I am going to move over near the scene of the last disappearance. Keep your lights swinging and sing out if you see anything on the screens."

I could feel the ship start to move slowly under the force of a side discharge from the rocket motor, and I swung the beams of the six lights around, trying to cover the entire area about us. Nothing appeared on the screens for an hour, and my head began to ache from the strain of unremitting close observation of the glowing screens. A buzz sounding over the hum of the rocket motor attracted my attention; Jim pulled his levers to neutral with the exception of the one which maintained our elevation and stepped to an instrument on the wall of the flyer.

"Hello," he called. "What? Where did it happen? All right, thanks, we'll move over that way at once."

He turned from the radio telephone and spoke.

"Another disappearance has just been reported," he said. "It happened on the outskirts of Pasadena. Keep your eyes open: I'm going to head in that direction."

A few minutes later we were floating over Pasadena. Jim stopped the flyer and joined me at the screens. We swung our beams in wide circles to cover the entire area around us, but no image on the screens rewarded us.

"Doggone it, they must have left here in a hurry," grumbled Jim.

Even as he spoke the flyer gave a lurch which nearly threw me off my seat and which sent Jim sprawling on the floor. With a white face he leaped to the control board and pulled the lever controlling our one working stern motor to full power. For a moment the ship moved upward and then came to a dead stop, although the motor still roared at full speed.

"Can't you see anything, Pete?" cried Jim as he threw our second stern motor into gear.

Again the ship moved upward for a few feet and then stopped. I

swung the searchlights frantically in all directions, but five of the screens remained blank and the sixth showed only the ground below us.

"Not a thing," I replied.

"Something ought to show," he muttered, and suddenly shut off both motors. The flyer gave a sickening lurch toward the ground, but we fell only a hundred yards before our motion stopped. We hung suspended in the air with no motors working. Jim joined me at the screens and we swung the lights rapidly without success.

"Look, Pete!" Jim cried hoarsely.

My gaze followed his pointing finger and I saw the door of our flyer springing out as though some force from the outside were trying to wrench it open. The pull ceased for an instant, then came again; the sturdy latches burst and the door was torn from its hinges. Jim swung one of the searchlights until the beam was at right angles to the hull of the flyer and pressed the gun button. A crash filled the confined space of the flyer as a one-pounder radite shell tore out into space.

"They're there but still invisible," he exclaimed as he shifted the direction of the gun and fired again. "I am shooting by guess-work, but I might score a hit."

He changed the direction of the gun again, but before he could press the button he was lifted into the air and drawn rapidly toward the open door.

"Shoot, Pete!" he shouted. "Shoot and keep on shooting—it's your only chance!"

I turned to the knobs controlling the guns and lights, but, before I could make a move, something hard and cold grasped me about the middle and I was lifted into the air and drawn toward the open door after Jim. I tore at the thing holding me with my hands, but it was a smooth round thing like a two-inch thick wire, and I could get no grip on it to loosen it. Out through the door I went and was drawn through the air a few feet behind Jim. He moved ahead of me for fifteen or twenty feet and then vanished in mid-air. I dared not struggle in mid-air and I was drawn through a door into a large space flyer which became visible as I entered it. The flexible wire or rod which had held me uncoiled and I was free on the floor beside Jim Carpenter. This much was clear and understandable, but when I looked at the crew of that space ship, I was sure that I had lost my

mind or was seeing visions. I had naturally expected men, or at least something in semi-human form, but instead of anything of the sort, before me stood a dozen gigantic beetles!

I rubbed my eyes and looked again. There was no mistaking the fact that we had been captured by a race of gigantic beetles flying an invisible space ship. When I had time later to examine them critically, I could see marked differences between our captors and the beetles we were accustomed to see on the earth besides the mere matter of size. To begin with, their bodies were relatively much smaller, the length of shell of the largest specimen not being over four feet, while the head of the same insect, exclusive of the horns or pinchers, was a good eighteen inches in length. The pinchers, which by all beetle proportions should have been a couple of feet long at the least, did not extend over the head a distance greater than eight inches, although they were sturdy and powerful.

Instead of traveling with their shells horizontal as do earthly beetles, these insects stood erect on their two lower pairs of legs, which were of different lengths so that all four feet touched the ground when the shell was vertical. The two upper pairs of legs were used as arms, the topmost pair[1] being quite short and splitting out at the end into four flexible claws about five inches long, which they used as

fingers. These upper arms, which sprouted from a point near the top of the head, were peculiar in that they apparently had no joints like the other three pairs but were flexible like an elephant's trunk. The second pair of arms were armed with long, vicious-looking hooks. The backplates concealed only very rudimentary wings, not large enough to enable the insects to fly, although Jim told me later that they could fly on their own planet, where the lessened gravity made such extensive wing supports as would be needed on earth unnecessary.

The backplates were a brilliant green in color, with six-inch stripes of chrome yellow running lengthwise and crimson spots three inches in diameter arranged in rows between the stripes. Their huge-faceted eyes sparkled like crystal when the light fell on them, and from time to time waves of various colors passed over them, evidently reflecting the insect's emotions. Although they gave the impression of great muscular power, their movements were slow and sluggish, and they seemed to have difficulty in getting around.

[Editor's note 1:

Mr. Bond has made a laughable error in his description. Like all of the coleoptera, the Mercurians were hexapoda (six legged). What Mr. Bond continually refers to in his narrative as "upper arms" were

really the antenna of the insects which split at the end into four flexible appendages resembling fingers. His mistake is a natural one, for the Mercurians used their antenna as extra arms.—James S. Carpenter. End Editor's note.]

As my horrified gaze took in these monstrosities I turned with a shudder to Jim Carpenter.

"Am I crazy, Jim," I asked, "or do you see these things too?"

"I see them all right, Pete," he replied. "It isn't as surprising as it seems at first glance. You expected to find human beings; so did I, but what reason had we for doing so? It is highly improbable, when you come to consider the matter, that evolution should take the same course elsewhere as it did on earth. Why not beetles, or fish, or horned toads, for that matter?"

"No reason, I guess," I answered; "I just hadn't expected anything of the sort. What do you suppose they mean to do with us?"

"I haven't any idea, old man. We'll just have to wait and see. I'll try to talk to them, although I don't expect much luck at it."

He turned to the nearest beetle and slowly and clearly spoke a few words. The insect gave no signs of comprehension, although it watched the movement of Jim's lips carefully. It is my opinion, and Jim agrees with me, that the insects were both deaf and dumb, for during the entire time we were associated with them, we never heard them give forth a sound under any circumstances, nor saw them

react to any sound that we made. Either they had some telepathic means of communication or else they made and heard sounds beyond the range of the human ear, for it was evident from their actions that they frequently communicated with one another.

When Jim failed in his first attempt to communicate he looked around for another method. He noticed my notebook, which had fallen on the floor when I was set down; he picked it up and drew a pencil from his pocket. The insects watched his movements carefully, and when he had made a sketch in the book, the nearest one took it from him and examined it carefully and then passed it to another one, who also examined it. The sketch which Jim had drawn showed the outline of the Hadley space flyer from which he had been taken. When the beetles had examined the sketch, one of them stepped to an instrument board in the center of the ship and made an adjustment. Then he pointed with one of his lower arms.

We looked in the direction in which he pointed; to our astonishment, the walls of the flyer seemed to dissolve, or at least to become perfectly transparent. The floor of the space ship was composed of some silvery metal, and from it had risen walls of the same material, but now the effect was as though we were suspended in mid-air, with nothing either around us or under us. I gasped and grabbed at the instrument board for support. Then I felt foolish as I realized that

there was no change in the feel of the floor for all its transparency and that we were not falling.

A short distance away we could see our flyer suspended in the air, held up by two long flexible rods or wires similar to those which had lifted us from our ship into our prison. I saw a dozen more of these rods coiled up, hanging in the air, evidently, but really on the floor near the edge of the flyer, ready for use. Jim suddenly grasped me by the arm.

"Look behind you in a moment," he said, "but don't start!"

He took the notebook in his hand and started to draw a sketch. I looked behind as he had told me to. Hanging in the air in a position which told me that they must have been in a different compartment of the flyer, were five children. They were white as marble, and lay perfectly motionless.

"Are they dead, Jim?" I asked in a low voice without looking at him.

"I don't know," he replied, "but we'll find out a little later. I am relieved to find them here, and I doubt if they are harmed."

The sketch which he was making was one of the solar system, and,

when he had finished, he marked the earth with a cross and handed the notebook to one of the beetles. The insect took it and showed it to his companions; so far as I was able to judge expressions, they were amazed to find that we had knowledge of the heavenly bodies. The beetle took Jim's pencil in one of its hands and, after examining it carefully, made a cross on the circle which Jim had drawn to represent the planet Mercury.

"They come from Mercury," exclaimed Jim in surprise as he showed me the sketch. "That accounts for a good many things; why they are so lethargic, for one thing. Mercury is much smaller than the earth and the gravity is much less. According to Mercurian standards, they must weigh a ton each. It is quite a tribute to their muscular development that they can move and support their weight against our gravity. They can understand a drawing all right, so we have a means of communicating with them, although a pretty slow one and dependent entirely on my limited skill as a cartoonist. I wonder if we are free to move about?"

"The only way to find out is to try," I replied and stood erect. The beetles offered no objection and Jim stood up beside me. We walked, or rather edged, our way toward the side of the ship. The insects watched us when we started to move and then evidently decided that we were harmless. They turned from us to the working of the ship.

One of them manipulated some dials on the instrument board. One of the rods which held our flyer released its grip, came in toward the Mercurian ship and coiled itself up on the floor, or the place where the floor should have been. The insect touched another dial. Jim threw caution to the winds, raced across the floor and grasped the beetle by the arm.

The insect looked at him questioningly; Jim produced the notebook and drew a sketch representing our flyer falling. On the level be had used to represent the ground he made another sketch of it lying in ruins. The beetle nodded comprehendingly and turned to another dial; the ship sank slowly toward the ground.

We sank until we hung only a few feet from the ground when our flyer was gently lowered down. When it rested on the ground, the wire which had held it uncoiled, came aboard and coiled itself up beside the others. As the Mercurian ship rose I noticed idly that the door which had been torn from our ship and dropped lay within a few yards of the ship itself. The Mercurian ship rose to an elevation of a hundred feet, drifting gently over the city.

As we rose I determined to try the effect of my personality on the beetles. I approached the one who seemed to be the leader and, putting on the most woeful expression I could muster, I looked at the

floor. He did not understand me and I pretended that I was falling and grasped at him. This time he nodded and stepped to the instrument board. In a moment the floor became visible. I thanked him as best I could in pantomime and approached the walls. They were so transparent that I felt an involuntary shrinking as I approached them. I edged my way cautiously forward until my outstretched hand encountered a solid substance. I looked out.

At the slow speed we were traveling the drone of our motors was hardly audible to us, and I felt sure that it could not be heard on the ground. Once their curiosity was satisfied, our captors paid little or no attention to me and left me free to come and go as I wished. I made my way cautiously toward the children, but ran into a solid wall. Remembering Jim's words, I made my way back toward him without displaying any interest.

Jim could probably have wandered around as I did had he wished, but he chose to occupy his time differently. With his notebook and pencil he carried on an extensive conversation, if that term can be applied to a crudely executed set of drawings, with the leader of the beetles. I was not especially familiar with the methods of control of space ships and I could make nothing of the maze of dials and switches on the instrument board.

For half an hour we drifted slowly along. Presently one of the beetles approached, seized my arm and turned me about. With one of his arms he pointed ahead. A mile away I could see another space flyer similar to the one we were on.

"Here comes another one, Jim." I called.

"Yes, I saw it some time ago. I don't know where the third one is."

"Are there three of them?"

"Yes. Three of them came here yesterday and are exploring the country round about here. They are scouts sent out from the fleet of our brother planet to see if the road was clear and what the world was like. They spotted the hole through the layer with their telescope and sent their fleet out to pay us a visit. He tells me that the scouts have reported favorably and that the whole fleet, several thousand ships, as near as I can make out, are expected here this evening."

"Have you solved the secret of their invisibility?"

"Partly. It is as I expected. The walls of the ship are double, the inner one of metal and the outer one of vitrolene or some similar perfectly transparent substance. The space between the walls is filled with

some substance which will bend both visible and ultra-violet rays along a path around the ship and then lets them go in their original direction. The reason why we can see through the walls and see the protective coating of that ship coming is that they are generating some sort of a ray here which acts as a carrier for the visible light rays. I don't know what sort of a ray it is, but when I get a good look at their generators, I may be able to tell. Are you beginning to itch and burn?"

"Yes, I believe that I am, although I hadn't noticed it until you spoke."

"I have been noticing it for some time. From its effects on the skin, I am inclined to believe it to be a ray of very short wave-length, possibly something like our X-ray, or even shorter."

"Have you found out what they intend to do with us?"

"I don't think they have decided yet. Possibly they are going to take us up to the leader of their fleet and let him decide. The cuss that is in command of this ship seems surprised to death to find out that I can comprehend the principles of his ship. He seems to think that I am a sort of a rara avis, a freak of nature. He intimated that he would recommend that we be used for vivisection."

"Good Lord!"

"It's not much more worse than the fate they design for the rest of their captives, at that."

"What is that?"

"It's a long story that I'll have to tell you later. I want to watch this meeting."

The other ship had approached to within a few yards and floated stationary, while some sort of communication was exchanged between the two. I could not fathom the method used, but the commander of our craft clamped what looked like a pair of headphones against his body and plugged the end of a wire leading from them into his instrument board. From time to time various colored lights glowed on the board before him. After a time he uncoupled his device from the board, and one of the long rods shot out from our ship to the other. It returned in a moment clamped around the body of a young girl. As the came on board, she was lowered onto the deck beside the other children. Like them, she was stiff and motionless. I gave an exclamation and sprang forward.

"Pete!"

Jim's voice recalled me to myself, and I watched the child laid with the others with as disinterested an expression as I could muster. I had never made a mistake in following Jim Carpenter's lead and I knew that somewhere in his head a plan was maturing which might offer us some chance of escape.

Our ship moved ahead down a long slant, gradually dropping nearer to the ground. I watched the maneuver with interest while Jim, with his friend the beetle commander, went over the ship. The insect was evidently amused at Jim and was determined to find out the limits of his intelligence, for he pointed out various controls and motors of the ship and made elaborate sketches which Jim seemed to comprehend fairly well.

One of the beetles approached the control board and motioned me back. I stepped away from the board; evidently a port in the side of the vessel opened, for I felt a breath of air and could hear the hum of the city. I walked to the side and glanced down, and found that we were floating about twenty feet off the ground over a street on the edge of the city. On the street a short distance ahead of us two children, evidently returning from school, to judge by the books under their arms, were walking unsuspectingly along. A turn of the dial sped up our motors, and as the hum rang out in a louder key the children looked upward. Two of the long flexible wires shot out and

wrapped themselves about the children; screaming, they were lifted into the space flyer. The port through which they came in shut with a clang and the ship rose rapidly into the air. The children were released from the wires which coiled themselves up on deck and the beetle who had operated them stepped forward and grasped the nearer of the children, a boy of about eleven, by the arm. He raised the boy, who was paralyzed with terror, up toward his head and gazed steadily into his eyes. Slowly the boy ceased struggling and became white and rigid. The beetle laid him on the deck and turned to the girl. Involuntarily I gave a shout and sprang forward, but Jim grasped me by the arm.

"Keep quiet, you darned fool!" he cried. "We can do nothing now. Wait for a chance!"

"We can't stand here and see murder done!" I protested.

"It's not murder. Pete, those children aren't being hurt. They are being hypnotized so that they can be transported to Mercury."

"Why are they taking them to Mercury?" I demanded.

"As nearly as I can make out, there is a race of men up there who are subject to these beetles. This ship is radium propelled, and the men

and women are the slaves who work in the radium mines. Of course the workers soon become sexless, but others are kept for breeding purposes to keep the race alive. Through generations of in-breeding, the stock is about played out and are getting too weak to be of much value.

"The Mercurians have been studying the whole universe to find a race which will serve their purpose and they have chosen us to be the victims. When their fleet gets here, they plan to capture thousands of selected children and carry them to Mercury in order to infuse their blood into the decadent race of slaves they have. Those who are not suitable for breeding when they grow up will die as slaves in the radium mines."

“Horrible!" I gasped. "Why are they taking children, Jim? Wouldn't adults suit their purpose better?"

"They are afraid to take adults. On Mercury an earthman would have muscles of unheard of power and adults would constantly strive to rise against their masters. By getting children, they hope to raise them to know nothing else than a life of slavery and get the advantage of their strength without risk. It is a clever scheme."

"And are we to stand here and let them do it?"

"Not on your life, but we had better hold easy for a while. If I can get a few minutes more with that brute I'll know enough about running this ship that we can afford to do away with them. You have a pistol, haven't you?"

"No."

"The devil! I thought you had. I have an automatic, but it only carries eight shells. There are eleven of these insects and unless we can get the jump on them, they'll do us. I saw what looks like a knife lying near the instrument board; get over near it and get ready to grab it as soon as you hear my pistol. These things are deaf and if I work it right I may be able to do several of them in before they know what's happening. When you attack, don't try to ram them in the back; their backplates are an inch thick and will be proof against a knife thrust. Aim at their eyes; if you can blind them, they'll be helpless. Do you understand?"

"I'll do my best, Jim," I replied. "Since you have told me their plans I am itching to get at them."

I edged over toward the knife, but as I did so I saw a better weapon. On the floor lay a bar of silvery metal about thirty inches long and an inch in diameter. I picked it up and toyed with it idly, meanwhile

edging around to get behind the insect which I had marked for my first attentions. Jim was talking again by means of the notebook with his beetle friend. They walked around the ship, examining everything in it.

"Are you ready, Pete?" came Jim's voice at last.

"All set," I replied, getting a firmer grasp on my bar and edging toward one of the insects.

"Well, don't start until I fire. You notice the bug I am talking to? Don't kill him unless you have to. This ship is a little too complicated for me to fathom, so I want this fellow taken prisoner. We'll use him as our engineer when we take control."

"I understand."

"All right, get ready."

I kept my eye on Jim. He had drawn the beetle with whom he was talking to a position where they were behind the rest. Jim pointed at something behind the insect's back and the beetle turned. As it did so, Jim whipped out his pistol and, taking careful aim, fired at one of the insects.

As the sound of the shot rang out I raised my bar and leaped forward. I brought it down with crushing force on the head of the nearest beetle. My victim fell forward, and I heard Jim's pistol bark again; but I had no time to watch him. As the beetle I struck fell the others turned and I had two of them coming at me with outstretched arms, ready to grasp me. I swung my bar, and the arm of one of them fell limp; but the other seized me with both its hands, and I felt the cruel hooks of its lower arms against the small of my back.

One of my arms was still free; I swung my bar again, and it struck my captor on the back of the head. It was stunned by the blow and fell. I seized the knife from the floor, and threw myself down beside it and struck at its eyes, trying to roll it over so as to protect me from the other who was trying to grasp me.

I felt hands clutch me from behind; I was wrenched loose from the body of my victim and lifted into the air. I was turned about and stared hard into the implacable crystalline eyes of one of the insects. For a moment my senses reeled and then, without volition, I dropped my bar. I remembered the children and realized that I was being hypnotized. I fought against the feeling, but my senses reeled and I almost went limp, when the sound of a pistol shot, almost in my ear, roused me. The spell of the beetle was momentarily broken. I thrust the knife which I still grasped at the eyes before me. My blow went

home, but the insect raised me and bent me toward him until my head lay on top of his and the huge horns which adorned his head began to close. Another pistol shot sounded, and I was suddenly dropped.

I grasped my bar as I fell and leaped up. The flyer was a shambles. Dead insects lay on all sides while Jim, smoking pistol in hand, was staring as though fascinated into the eyes of one of the surviving beetles. I ran forward and brought my bar down on the insect's head, but as I did so I was grasped from behind.

"Jim, help!" I cried as I was swung into the air. The insect whirled me around and then threw me to the floor. I had an impression of falling; then everything dissolved in a flash of light. I was unconscious only for a moment, and I came to to find Jim Carpenter standing over me, menacing my assailant with his gun.

"Thanks, Jim," I said faintly.

"If you're conscious again, get up and get your bar," he replied. "My pistol is empty and I don't know how long I can run a bluff on this fellow."

I scrambled to my feet and grasped the bar. Jim stepped behind me

and reloaded his pistol.

"All right," he said when he had finished. "I'll take charge of this fellow. Go around and see if the rest are dead. If they aren't when you find them, see that they are when you leave them. We're taking no prisoners."

I went the rounds of the prostrate insects. None of them were beyond moving except two whose heads had been crushed by my bar, but I obeyed Jim's orders. When I rejoined him with my bloody bar, the only beetle left alive was the commander, whom Jim was covering with his pistol.

"Take the gun," he said when I reported my actions, "and give me the bar."

We exchanged weapons and Jim turned to the captive.

"Now, old fellow," he said grimly, "either you run this ship as I want you to, or you're a dead Indian. Savvy?"

He took his pencil and notebook from his pocket and drew a sketch of our Hadley space ship. On the other end of the sheet he drew a picture of the Mercurian ship, and then drew a line connecting the

two. The insect looked at the sketch but made no movement.

"All right, if that's the way you feel about it," said Jim. He raised the bar and brought it down with crushing force on one of the insect's lower arms. The arm fell as though paralyzed and a blue light played across the beetle's eyes. Jim extended the sketch again and raised the bar threateningly. The beetle moved over to the control board, Jim following closely, and set the ship in motion. Ten minutes later it rested on the ground beside the ship in which we had first taken the air.

Following Jim's pictured orders the beetle opened the door of the Mercurian ship and followed Jim into the Hadley. As we emerged from the Mercurian ship I looked back. It had vanished completely.

"The children, Jim!" I gasped.

"I haven't forgotten them," he replied, "but they are all right for the present. If we turned them loose now, we'd have ninety reporters around us in ten minutes. I want to get our generators modified first."

He pointed toward the spot where the Mercurian ship had stood and then toward our generators. The beetle hesitated, but Jim swung his

bar against the insect's side in a vicious blow. Again came the play of blue light over the eyes; the beetle bent over our generaters and set to work. Jim handed me the bar and bent over to help. They were both mechanics of a high order and they worked well together; in an hour the beetle started the generators and swung one of the searchlights toward his old ship. It leaped into view on the radium coated screen.

"Good business!" ejaculated Jim. "We'll repair this door; then we'll be ready to release the children and start out."

We followed the beetle into the Mercurian ship, which it seemed to be able to see. It opened a door leading into another compartment of the flyer, and before us lay the bodies of eight children. The beetle lifted the first one, a little girl, up until his many-faceted eyes looked full into the closed ones of the child. There was a flicker of an eyelash, a trace of returning color, and then a scream of terror from the child. The beetle set the girl down and Jim bent over her.

"It's all right now, little lady," he said, clumsily smoothing her hair.

"You're safe now. Run along to your mother. First Mortgage, take charge of her and take her outside. It isn't well for children to see these things."

The child clung to my hand: I led her out of the ship, which promptly vanished as we left it. One by one, seven other children joined us, the last one, a miss of not over eight, in Jim's arms. The beetle followed behind him.

"Do any of you know where you are?" asked Jim as he came out.

"I do, sir," said one of the boys. "I live close to here."

"All right, take these youngsters to your house and tell your mother to telephone their parents to come and get them. If anyone asks you what happened, tell them to see Jim Carpenter to-morrow. Do you understand?"

"Yes, sir."

"All right, run along then. Now, First Mortgage, let's go hunting."

We wired our captive up so securely that I felt that there was no possible chance of his escape; then, with Jim at the controls and me at the guns, we fared forth in search of the invaders. Back and forth over the city we flew without sighting another spaceship in the air. Jim gave an exclamation of impatience and swung on a wider circle, which took us out over the water. I kept the searchlights working.

Presently, far ahead over the water, a dark spot came into view. I called to Jim and we approached it at top speed.

"Don't shoot until we are within four hundred yards," cautioned Jim.

I held my fire until we were within the specified distance. The newcomer was another of the Mercurian space-ships; with a feeling of joy I swung my beam until the cross-hairs of the screen rested full on the invader.

"All ready!" I sung out.

"If you are ready, Gridley, you may fire!" replied Jim. I pressed the gun button. The crash of the gun was followed by another report from outside as the radite shell burst against the Mercurian flyer. The deadly explosive did its work, and the shattered remains of the wreck fell, to be engulfed in the sea below.

"That's one!" cried Jim. "I'm afraid we won't have time to hunt up the other right now. This bug told me that the other Mercurians are due here to-day, and I think we had better form ourselves into a reception committee and go up to the hole to meet them."

He sent the ship at high speed over the city until we hovered over the

laboratory. We stopped for a moment, and Jim stepped to the radio telephone.

"Hello, Williams," he said, "how are things going? That's fine. In an hour, you say? Well, speed it up as much as you can; we may call for it soon."

He turned both stern motors to full power, and we shot up like a rocket toward the hole in the protective layer through which the invaders had entered. In ten minutes we were at the altitude of the guard ships and Jim asked if anything had been seen. The report was negative; Jim left them below the layer and sent our flyer up through the hole into space. We reached the outer surface in another ten minutes and we were none too soon. Hardly had we debouched from the hole than ahead of us we saw another Mercurian flyer. It was a lone one, and Jim bent over the captive and held a hastily made sketch before him. The sketch showed three Mercurian flyers, one on the ground, one wrecked and the third one in the air. He touched the drawing of the one in the air and pointed toward our port hole and looked questioningly at the beetle. The insect inspected the flyer in space and nodded.

"Good!" cried Jim. "That's the third of the trio who came ahead as scouts. Get your gun ready, First Mortgage: we're going to pick him

off."

Our ship approached the doomed Mercurian. Again I waited until we were within four hundred yards; then I pressed the button which hurled it, a crumpled wreck, onto the outer surface of the heaviside layer.

"Two!" cried Jim as we backed away.

"Here come plenty more," I cried as I swung the searchlight. Jim left his controls, glanced at the screen and whistled softly. Dropping toward us from space were hundreds of the Mercurian ships.

"We got here just in time," he said. "Break out your extra ammunition while I take to the hole. We can't hope to do that bunch alone, so we'll fight a rearguard action."

Since our bow gun would be the only one in action, I hastily moved the spare boxes of ammunition nearer to it while Jim maneuvered the Hadley over the hole. As the Mercurian fleet came nearer he started a slow retreat toward the earth. The Mercurians overtook us rapidly; Jim locked his controls at slow speed down and hurried to the bow gun.

"Start shooting as soon as you can," he said. "I'll keep the magazine filled."

I swung the gun until the cross-hairs of the screen rested full on the leading ship and pressed the button. My aim was true, and the shattered fragments of the ship fell toward me. The balance of the fleet slowed down for an instant; I covered another one and pressed my button. The ship at which I had aimed was in motion and I missed it, but I had the satisfaction of seeing another one fall in fragments. Jim was loading the magazine as fast as I fired. I covered another ship and fired again. A third one of our enemies fell in ruins. The rest paused and drew off.

"They're retreating, Jim!" I cried.

"Cease firing until they come on again," he replied is he took the shells from the magazines of the other guns and piled them near the bow gun.

I held my fire for a few minutes. The Mercurians retreated a short distance and then came on again with a rush. Twenty times my gun went off as fast as I could align it and press the trigger, and eighteen of the enemy ships were in ruins. Again the Mercurians retreated. I held my fire. We were falling more rapidly now and far below we

could see the black spots which were the guard ships. I told Jim that they were in sight; he stepped to the radio telephone and ordered them to keep well away from the hole.

Again the Mercurian ships came on with a rush, this time with beams of orange light stabbing a way before them. When I told Jim of this he jumped to the controls and shot our ship down at breakneck speed.

"I don't know what sort of fighting apparatus they have, but I don't care to face it," he said to me. "Fire if they get close; but I hope to get out of the hole before they are in range."

Fast as we fell, the Mercurians were coming faster, and they were not over eight hundred yards from us when he reached the level of the guard ships. Jim checked our speed; I managed to pick off three more of the invaders before we moved away from the hole. Jim stopped the side motion and jumped to the radio telephone.

"Hello, Williams!" he shouted into the instrument. "Are you ready down there? Thank God! Full power at once, please!

"Watch what happens," he said to me, as he turned from the instrument.

Some fifty of the Mercurian flyers had reached our level and had started to move toward us before anything happened. Then from below came a beam of intolerable light. Upward it struck, and the Mercurian ships on which it impinged disappeared in a flash of light.

"A disintegrating ray," explained Jim. "I suspected that it might be needed and I started Williams to rigging it up early this morning. I hated to use it because it may easily undo the work that six years have done in healing the break in the layer, but it was necessary. That ends the invasion, except for those ten or twelve ships ahead of us. How is your marksmanship? Can you pick off ten in ten shots?"

"Watch me," I said grimly as the ship started to move.

Pride goeth ever before a fall: it took me sixteen shots to demolish the eleven ships which had escaped destruction from the ray. As the last one fell in ruins, Jim ordered the ray shut off. We fell toward the ground.

"What are we going to do with our prisoner?" I asked.

Jim looked at the beetle meditatively.

"He would make a fine museum piece if he were stuffed," he said,

"but on the whole, I think we'll let him go. He is an intelligent creature and will probably be happier on Mercury than anywhere else. What do you say that we put him on his ship and turn him loose?"

"To lead another invasion?" I asked.

"I think not. He has seen what has happened to this one and is more likely to warn them to keep away. In any event, if we equip the guard ships with a ray that will show the Mercurian ships up and keep the disintegrating ray ready for action, we needn't fear another invasion. Let's let him go."

"It suits me all right, Jim, but I hold out for one thing. I will never dare to face McQuarrie again if I fail to get a picture of him. I insist on taking his photograph before we turn him loose."

"All right, go ahead," laughed Jim. "He ought to be able to stand that, if you'll spare him an interview."

An hour later we watched the Mercurian flyer disappear into space.

"I hope I've seen the last of those bugs," I said as the flyer faded from view.

"I don't know," said Jim thoughtfully. "If I have interpreted correctly the drawings that creature made, there is a race of manlike bipeds on Mercury who are slaves to those beetles and who live and die in the horrible atmosphere of a radium mine. Some of these days I may lead an expedition to our sister planet and look into that matter."